

Notice of Allowability

Application No.

10/802,284

Examiner

Roy D. Gibson

Applicant(s)

CHEN, JAMES

Art Unit

3739

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an IDS filed 09 Sep 2005.
2. ☒ The allowed claim(s) is/are 1-17.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>8/2/04 & 9/9/05</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

none of the prior art of record discloses or suggest a method of administering a PDT to destroy or impair target cells expressing a VEGF receptor in a mammalian subject comprising in part the combination of the following steps:

(a) administering to the mammalian subject a therapeutically effective amount of a liposome delivery system, comprising:

(i) a first conjugate comprising a first member of a ligand-receptor binding pair conjugated to one of an antibody and an antibody fragment that selectively binds to a VEGF receptor of the target cells;

(ii) a second conjugate comprising a second member of the ligand-receptor binding pair, conjugated to a photoreactive compound;
and

(iii) a liposome, separately conjugated to the second member of the ligand-receptor binding pair, wherein:
the first member binds to the second member of the ligand-receptor binding pair;

(b) irradiating at least a portion of the mammalian subject in which the target cells are disposed, using light having a waveband corresponding at least in part to the characteristic light absorption waveband of the photoreactive compound; wherein

the intensity of the light used for the step of irradiating and the duration of irradiation have been selected such that the target cells are destroyed and the non-target tissue through which the light passes remains undamaged; or

none of the prior art of record discloses or suggest a method of administering a PDT to destroy or impair target cells comprising in part the combination of the following steps:

(a) administering to the subject a therapeutically effective amount of a targeted photosensitizer compound having a characteristic light absorption waveband, wherein:

the targeted photosensitizer compound selectively binds with the target cells; and

the photosensitizer compound is targeted to a receptor on a vascular endothelial tissue or an abnormal vascular wall of a tumor;

(b) activating the photosensitizer bound to the target cells by irradiating with light having a waveband corresponding at least in part to the characteristic light absorption waveband of the targeted photosensitizer compound from a light source disposed within the tumor, wherein:

the intensity of the light used for the step of irradiating and the duration of irradiation are selected such that within a zone of treatment the target cells are destroyed and the non-target tissue through which the light

passes remains undamaged; and

(c) sequentially expanding the zone of treatment outward in a stepwise manner by repositioning the light source, thereby destroying tumor tissue; or

none of the prior art of record discloses or suggest a liposome delivery system comprising in part the combination of the following:

- (i) a first conjugate comprising a first member of a ligand-receptor binding pair conjugated to one of an antibody and an antibody fragment that selectively binds to a VEGF receptor of the target cells;
- (ii) a second conjugate comprising a second member of the ligand-receptor binding pair, conjugated to a photoreactive compound; and
- (iii) a liposome, separately conjugated to the second member of the ligand-receptor binding pair, wherein the first member binds to the second member of the ligand-receptor binding pair.

Note that the underlined words/phrases above indicate the particular steps or system elements not found in the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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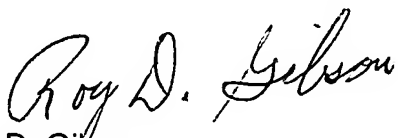
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Desai et al (6,890,555) disclose a liposome composition of porphyrin photosensitizers; and Bender et al. (US 2004/0029788) disclose methods and compositions for the treatment of diseases of the eye.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roy D. Gibson whose telephone number is 571-272-4767. The examiner can normally be reached on Tu-Th, 7:30 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Roy D. Gibson
Primary Examiner
Art Unit 3739

October 13, 2005